Feb. 25, 1941. B. O. WILSON ET AL 2,232,749

BUTTER SLICER AND DISPENSER

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FIG. 1

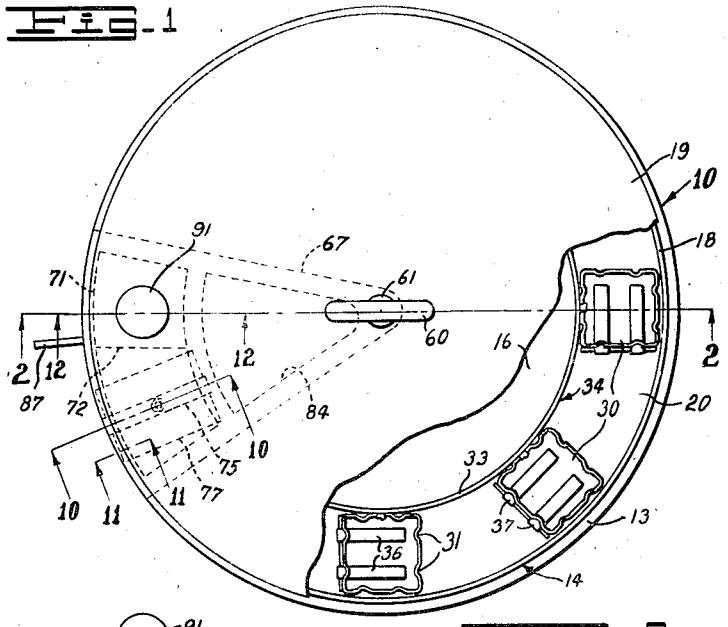


FIG. 2

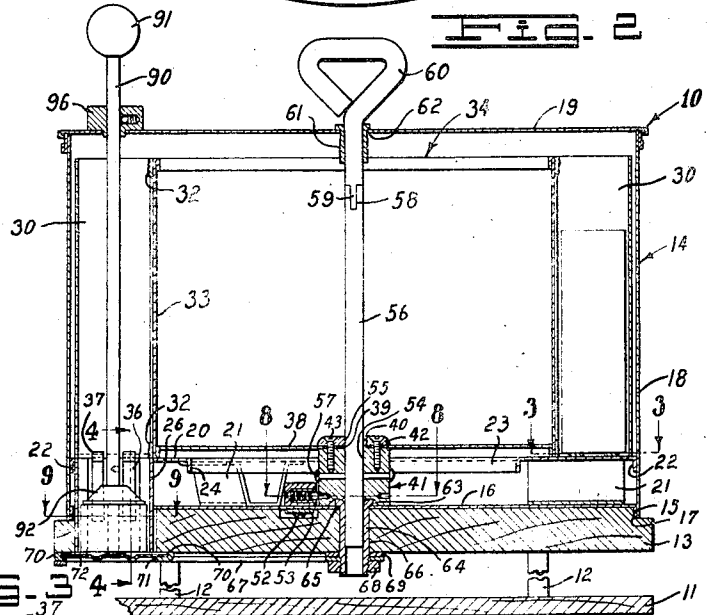


FIG. 3

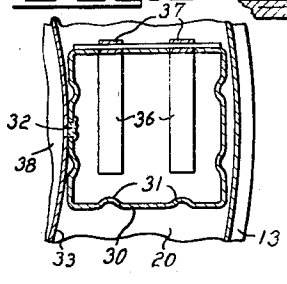
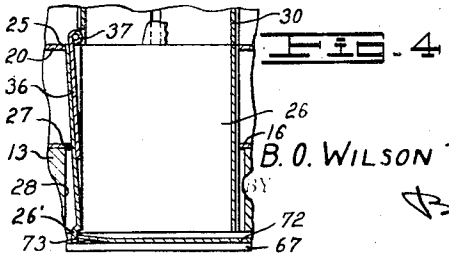


FIG. 4



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Fig. 5

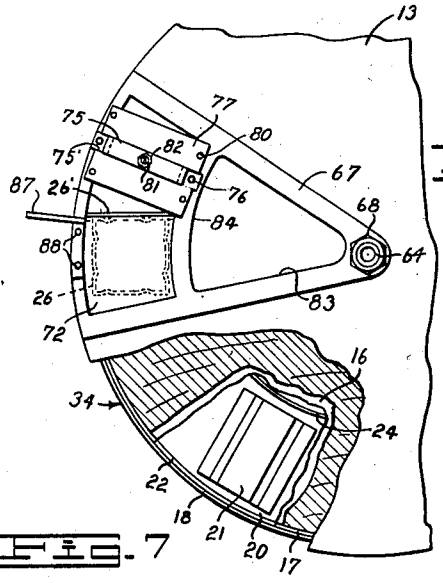


Fig. 15

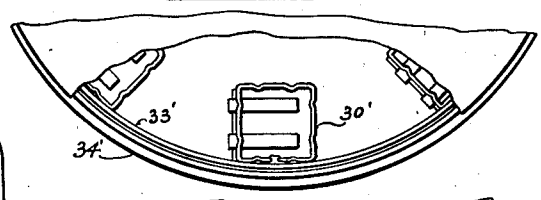


Fig. 6

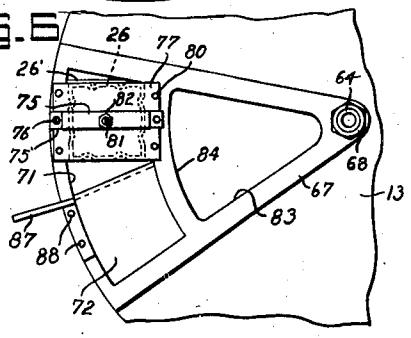


Fig. 7

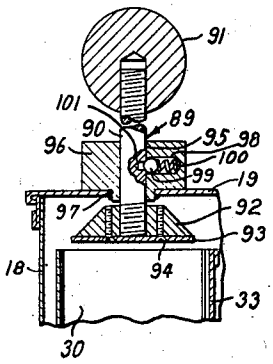


Fig. 9

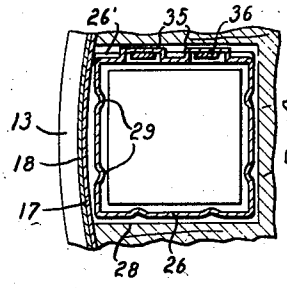


Fig. 10

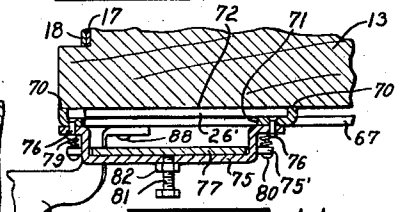


Fig. 11

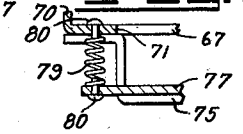


Fig. 8

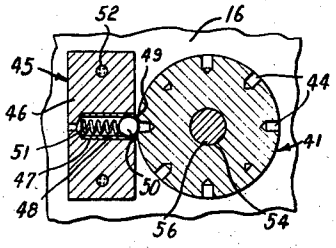
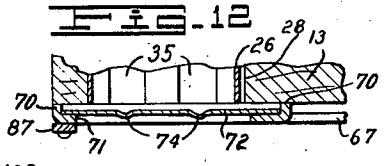


Fig. 12



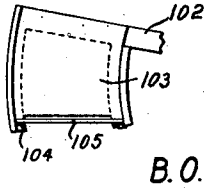
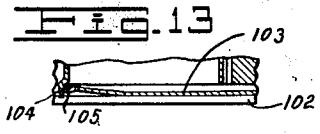


Fig. 14

Fig. 13



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Patented Feb. 25, 1941

2,232,749

UNITED STATES PATENT OFFICE

2,232,749

BUTTER SLICER AND DISPENSER

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Pasadena, Calif.

Application September 30, 1938, Serial No. 232,560

9 Claims. (Cl. 31—21)

This invention relates to improvements in butter slicers and dispensers.

The general object of our invention is to provide a novel butter dispenser which can be economically manufactured.

A more specific object of our invention is to provide a novel dispensing device which is adapted to store butter in quantities and to keep the same in a fresh condition.

Another object of our invention is to provide a novel rotatable storage compartment for bars of butter and wherein the butter may be sliced one slice at a time.

Another object of our invention is to provide a butter slicing machine including novel cutting means and novel means for varying the thickness of a slice of butter.

Other objects and advantages of our invention will be apparent from the following description taken in connection with the accompanying drawings, wherein:

Fig. 1 is a top plan view showing our butter dispenser with part of the cover broken away;

Fig. 2 is a section taken on line 2—2 Fig. 1;

Fig. 3 is an enlarged fragmentary section taken on line 3—3 Fig. 2;

Fig. 4 is an enlarged fragmentary section taken on line 4—4 Fig. 2;

Fig. 5 is a fragmentary bottom plan view with parts broken away showing the slicing apparatus;

Fig. 6 is a fragmentary bottom plan view, similar to Fig. 5, with the parts in another position;

Fig. 7 is an enlarged fragmentary section of the follower in the raised position;

Fig. 8 is an enlarged fragmentary section taken on line 8—8 Fig. 2;

Fig. 9 is an enlarged fragmentary section taken on line 9—9 Fig. 2;

Fig. 10 is an enlarged fragmentary section taken on line 10—10 Fig. 1;

Fig. 11 is an enlarged fragmentary section taken on line 11—11 Fig. 1;

Fig. 12 is an enlarged fragmentary section taken on line 12—12 Fig. 1;

Fig. 13 is a fragmentary central section of a modified slicer;

Fig. 14 is a fragmentary top plan view of the modified slicer; and

Fig. 15 is a fragmentary top plan view of a modified butter dispenser with part of the cover broken away.

Referring to the drawings by reference characters we have indicated our novel butter dispenser generally at 10. As shown the butter dispenser includes a base 11 of wood or other material having vertical supports 12 thereon which are secured to a bottom member 13 made of wood or other material of a container 14.

The bottom 13 is preferably cylindrical and includes a reduced upper cylindrical portion 15. The top surface of the bottom 13 has a metal cover 16 thereon having a downwardly directed peripheral flange 17 which snugly engages the reduced portion 15 and has its outer edge suitably secured to the lower end of a cylinder which constitutes the side wall 18 of the container 14. The upper end of the wall 18 is provided with a snugly fitted removable cover 19.

The container 14 is provided with an annular partition member 20 spaced above the cover 16 and removably supported on brackets 21. The member 20 includes an outer downwardly extending flange 22 and has a central opening 23 therein surrounded by a depending flange 24. The outer flange 22 slidably engages the container wall 18.

The partition member 20 has an aperture 25 therein in which a downwardly directed chute 26 is secured. The chute 26 extends downwardly through a rectangular aperture 27 in the cover 16 and through an aperture 28 in the bottom 13. The chute 26 is preferably rectangular and of such a size as to allow a standard quarter pound cake of butter to be placed therein.

As shown in Fig. 9, the surface of the chute 26 with which the butter is adapted to come in contact is provided with corrugations 29 to reduce friction. The forward wall of the chute 26 is provided with a forward and downward projecting tongue 26' which engages the cutting edge 73 to act as a stop to limit the slicing movement.

The container 14 includes a plurality of storage compartments 30 which, as shown, are of the same size as the chute 26 and have the walls corrugated as at 31 to reduce friction. The compartments 30 are welded or otherwise suitably secured at the upper and lower ends as at 32 at intervals to an annular wall 33 of an inner or second container 34 and are adapted to be aligned with the chute 26 and are slidable on the member 20. The wall of the chute 26 is provided with grooves 35 which receive shoes 36 pivotally mounted as at 37 on the leading edge of the storage compartments 30 and normally free to fall to the position shown in Fig. 4. The shoes 36 support the columns of butter so that there is no wiping action as the container rotates.

The container 34 includes a liquid tight bottom 38 which has a central aperture 39 therein to receive a reduced boss 40 on a collar 41. The collar 41 is held in position by a cap 42 secured

by screws 43 extending through suitable apertures in the bottom 38. As shown in Fig. 8 the collar 41 is provided with bores 44 which are aligned with each of the storage compartments 30 and are engageable by a catch device 45 which includes a housing 46 having a bore 47 therein which tightly receives a sleeve 48 provided with a reduced opening 49 at the outer end to retain a ball 50 therein which is normally urged outwardly by a spring 51. The housing 46 is shown as secured to the cover 16 by screws 52 and a reinforcing plate 53.

The collar 41 and cap 42 include aligned bores 54 and 55 in which is fitted a shaft 56 secured therein by a pin 57. The upper end of the shaft 56 is provided with a keyway 58 which engages a key 59 on a shank of a removable turner 60 which is rotatably mounted in a bushing 61 secured in a central aperture 62 in the cover 19 and by which the container 34 may be rotated.

A chamber 63 in the lower end of the collar 41 receives the upper end of a bushing 64 into which the lower end of the shaft 56 extends, and which is arranged within aligned apertures 65 and 66 in the cover 16 and bottom 13.

An arm 67 rotatably mounted on the lower end of the bushing 64 is held in place by a nut 68 which engages a washer 69. The arm 67 includes upwardly projecting arcuate flanges 70 which slidably engage the lower side of the bottom 13. The arm 67 has an aperture 71 therein between the flanges 70.

A cutting plate 72 is suitably secured to the upper side of the arm 67 between the flanges 70 with the forward cutting edge bent upwardly as at 73 so as to prevent the butter sticking thereon while in the process of being sliced (see Fig. 4). As a further means of preventing the butter from sticking, the cutting plate 72 has downwardly directed corrugations as at 74 (see Fig. 12).

A U shaped member 75 is secured by rivets 76 to the lower side of the arm 67 in alignment with the aperture 71, and at the opposite end from the cutting plate 72. A plate 77 is slidably mounted on the U shaped member 75 and is centrally notched at each end as at 75' to receive the upwardly extending portions of the member 75.

The plate 77 is normally held down by springs 79 secured in place by pins 80 arranged on the arm 67 and plate 77. The plate 77 may be vertically adjusted by adjusting an adjusting screw 81 which threadedly engages the center of the U shaped member 75 and which includes a lock nut 82. Thus the thickness of the slices of butter may be determined.

The arm 67 has a second aperture 83 therein arcuately curved as at 84. The arm 67 also includes a handle 87 secured thereon by rivets 88 by means of which the slicer may be operated.

Directly above the chute 26 the cover 19 supports a follower 89 which comprises a shaft 90 having a handle 91 threadedly engaging the upper end thereof and a weight 92 threadedly engaging the lower end. A plate 93 is secured on the lower face of the weight by screws 94. The shaft 90 is slidably mounted in an aperture 95 in a housing 96 which is suitably secured in an aperture 97 on the cover 19.

The housing 96 includes a bore 98 in which is placed a ball 99 normally urged towards the shaft 90 by a spring 100 to engage in a bore 101 in the shaft 90 near the lower end thereof as shown in Fig. 7.

In operation the container 34 is preferably filled with ice and the storage compartments 30 are each provided with a cake of butter. The cover 19 is then replaced on the container 14 with the key 59 on the shank of the turner 60 positioned in the keyway 58 in the shaft 56. The follower 89 is aligned with the chute 26 and is held in the raised position by the ball 99 engaging the bore 101.

The container 34 and the storage compartments 30 are then rotated by means of the turner 60 and shaft 56 until the ball 50 in the catch device 45 engages one of the bores 44 thereby assuring that one of the storage compartments 30 is in direct alignment with the chute 26 allowing the shoes 36 to swing downwardly into the grooves 35 and the butter to slide freely down within the chute 26 until it engages the upper surface of the cutting plate 72.

The follower 89 is then released from the raised position by pressing on the handle 91, thus allowing the weight 92 to rest on top of the butter assuring a steady downward movement as the butter is sliced.

By moving the handle 87 clockwise the butter is allowed to drop down until it engages the plate 77, whereupon the butter is ready to be sliced. By moving the handle anti-clockwise the forward cutting edge 73 slices the butter and again closes the chute 26 and compartments 30 from the outside atmosphere.

The operation is continued in this manner until the butter in the storage compartment being used is exhausted. Then the follower 89 is raised until the ball 99 catches in the bore 101, whereupon the container 34 and storage compartments 30 are free to rotate until the next compartment is above the chute 26 and is secured by the catch 45. This operation is repeated until the storage compartments are empty.

In Figs. 13 and 14 we show a modified slicing unit mounted on an arm 102 similar in all respects to the arm 67 previously described. The slicing unit includes a cutting plate 103 similar to the plate 72 and secured to the arm 102 consisting of forwardly projecting tongues 104 on both sides thereof on which is secured a thin wire 105 which slices the butter when the arm 102 is moved to the right.

In Fig. 15 we show a modified butter dispenser similar to the device previously described wherein the compartments 30' are secured directly to an annular outer wall 33' within the container 34' thereby admitting ice to three sides of the compartments.

From the foregoing it will be apparent that we have invented a novel butter slicer and dispenser which can be economically manufactured and which is highly efficient for the intended purpose.

Having thus described our invention, we claim:

1. In a butter slicing apparatus, a container having a bottom, a compartment member in said container, said container bottom having an opening, said member being in alignment with said opening, a frame pivotally mounted below said container and shiftable beneath said opening, said frame being apertured, a U-shaped bar on said frame, a butter supporting plate, means to adjustably support said plate on said bar for movement towards and from said opening, said frame having a cutting member thereon, and means for shifting said frame.

2. In a butter slicing apparatus, a container

having a bottom, a compartment member in said container, said container bottom having an opening, said member being in alignment with said opening, a frame pivotally mounted below said container and shiftable beneath said opening, said frame being apertured, a U-shaped bar on the frame, a butter supporting plate slidable on said bar, means to normally urge said plate towards said opening, means to adjustably shift said plate towards said opening and a cutting member on said frame, said cutting member including an elongated member having an upwardly inclined folded over leading cutting edge.

3. In a butter slicing apparatus, a container having a bottom, a plurality of compartment forming members rotatably mounted in said container, said container bottom having an opening, said members being shiftable into alignment with said opening, a frame pivotally mounted below said container and shiftable beneath said opening, said frame being apertured, a U-shaped bar having its ends secured to said frame and extending across said aperture, a butter supporting plate, means to adjustably support said plate beneath said frame aperture, said frame having a cutting member on the upper surface thereof, said cutting member including an elongated metal member having an upwardly inclined folded over leading cutting edge, said cutting member having spaced downwardly directed ribs thereon, and means for rotating said frame.

4. In a butter slicing apparatus, a container having a bottom with an aperture therein, a plurality of compartment forming members mounted in said container to rotate about a vertical axis, said compartment forming members being movable to align with said bottom opening, a frame pivotally mounted below said container and shiftable beneath said bottom opening, said frame having an aperture therein, a U-shaped bar having its ends secured to said frame and including an intermediate portion extending across said aperture, a butter supporting plate having notches receiving said bar, said butter supporting plate being disposed beneath said frame aperture, resilient means engaging said frame and said plate to urge the plate away from said bottom opening, and adjustable means on said bar urging said plate towards said opening, said frame having a cutting member mounted thereon adjacent to said plate.

5. In a butter slicing apparatus, a container having a bottom with an aperture therein, a plurality of compartment forming members mounted in said container to rotate about a vertical axis, said compartment forming members being movable to align with said bottom opening, pivoted shoes arranged at the lower end of each of said compartment forming members, a frame pivotally mounted below said container and shiftable beneath said bottom opening, said frame having an aperture therein, a U-shaped bar having its ends secured to said frame and including an intermediate portion extending across said aperture, a butter supporting plate having notches receiving said bar, said butter supporting plate being disposed beneath said frame aperture, resilient means engaging said frame and said plate to urge the plate away from said bottom opening, and adjustable means on said bar urging said plate towards said opening, said frame having a cutting member mounted thereon at the trailing end of said plate, said cutting member including a metal plate having an inclined leading cutting edge and said cutting member having butter engaging ribs thereon.

6. In a butter slicing apparatus, an outer container having a bottom and a top, an inner container rotatably mounted within said outer container, a plurality of compartment members mounted on the outer periphery of said inner container, said bottom having a chute, said compartment members being alignable with said chute when the inner container is rotated, releasable means to hold each compartment in line with said chute, each of said compartments having a pair of shoes in the bottom thereof, said shoes engaging the bottom of said outer container and being pivotally mounted whereby they fall into a vertical position in said chute, a follower on said top, said follower being adapted to be aligned with said chute and having a butter engaging weighted lower end adapted to engage butter in the compartments, and a sector shaped butter slicing frame member mounted to rotate upon an axis coaxial with the axis of said inner container, said butter slicing member including spaced upwardly projecting arcuate flanges engaging the under surface of said bottom, said frame member having a butter engaging portion at one end and a butter slicing portion at the other end, said butter slicing and butter engaging members being adjustable relative to each other to vary the thickness of the slice, said inner container having an imperforate bottom and being adapted to contain cooling material, said inner container including a shaft and means passing through said top for rotating said shaft.

7. In a butter slicing apparatus, an outer container having a bottom and a top, an inner container rotatably mounted within said outer container, a plurality of compartment members mounted on the outer periphery of said inner container, said bottom having a chute, said compartment members being alignable with said chute when the inner container is rotated, releasable means to hold each compartment in line with said chute, each of said compartments having a pivotally mounted shoe in the bottom of said outer container and adapted to fall into a vertical position in said chute, and a sector shaped butter slicing frame member mounted to rotate upon an axis coaxial with the axis of said inner container, said butter slicing member including spaced upwardly projecting arcuate flanges engaging the under surface of said bottom, said frame member having a butter engaging portion at one end and a butter slicing portion at the other end, said butter slicing and butter engaging members being adjustable relative to each other to vary the thickness of the slice.

8. In a butter slicing apparatus, a container having a bottom and a top, a plurality of compartment members mounted in the container, said bottom having a chute, said compartment members being alignable with said chute when the container is rotated, releasable means to hold each compartment in line with said chute, each of said compartments having a shoe in the bottom of the container and being pivotally mounted whereby it falls into a vertical position in said chute, and a sector shaped butter slicing frame member mounted to rotate upon an axis coaxial with the axis of said container, said butter slicing member including spaced upwardly projecting arcuate flanges engaging the under surface of said bottom, said frame member having a butter engaging portion at one end and a butter slicing portion at the other end, said butter slic-

ing and butter engaging members being adjustable relative to each other to vary the thickness of the slice, said container having an imperforate bottom and being adapted to contain cooling material, said container including a shaft and means passing through said top for rotating said shaft.

9. In a butter slicing apparatus, an outer container having a bottom and a top, an inner container rotatably mounted within said outer container, a plurality of compartment members mounted on the inner container, said bottom having a chute, said compartment members being alignable with said chute, releasable means to hold each compartment in line with said chute, each of said compartments having a pivoted shoe adapted to fall into a vertical position in said chute, a slicing frame member mounted to rotate upon an axis coaxial with the axis of said inner container, said slicing member including spaced upwardly projecting arcuate flanges engaging the under surface of said bottom, said frame member having a butter engaging portion at one end and a butter slicing portion at the other end, said butter slicing and butter engaging members being adjustable relative to each other to vary the thickness of the slice, said inner container having an imperforate bottom and being adapted to contain cooling material, and means to rotate said inner container.

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